



SPEC® CINT2006 Result

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IBM Corporation

SPECint®2006 = 17.9

IBM System x3550 (Intel Xeon E5345)

SPECint_base2006 = 15.3

CPU2006 license: 11

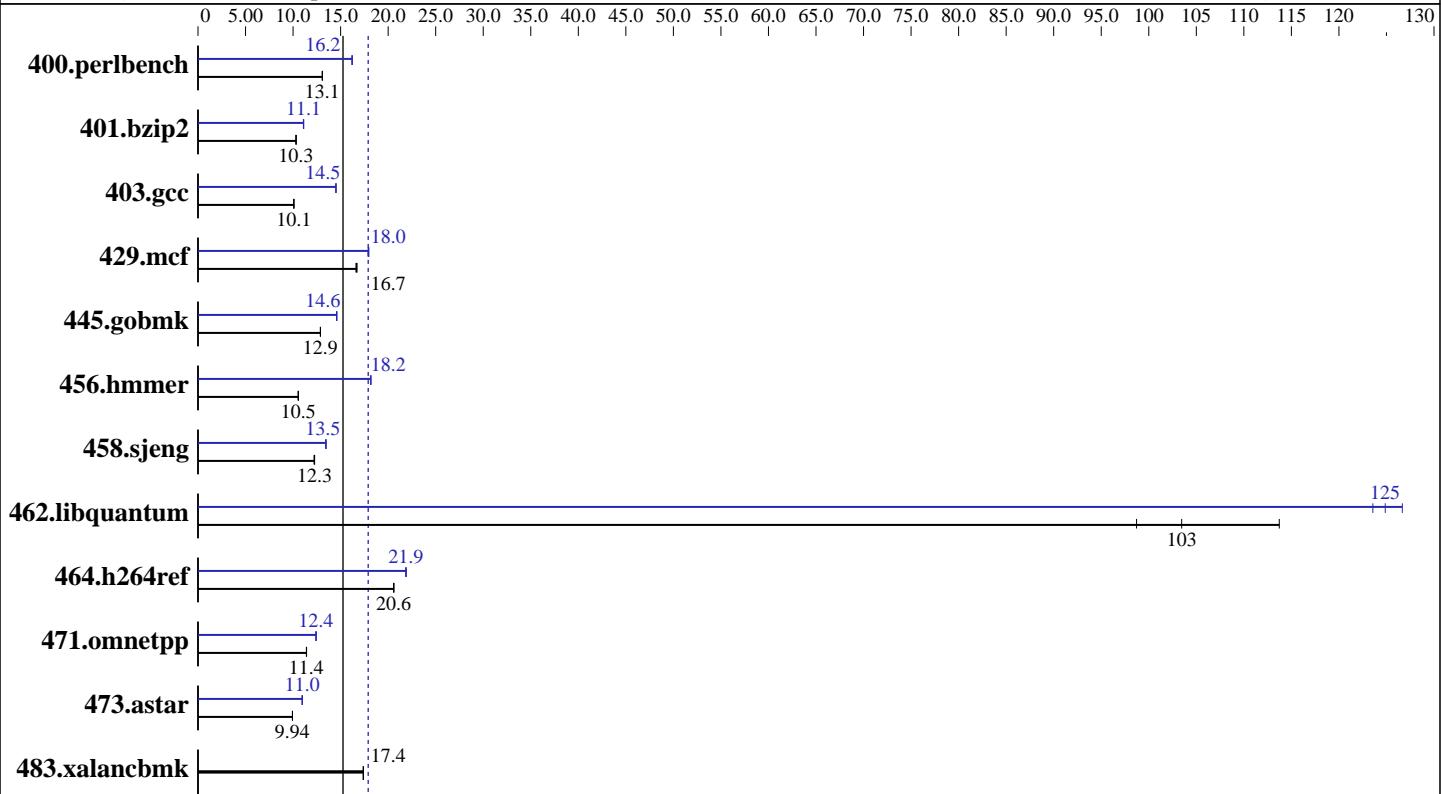
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Sep-2007

Hardware Availability: Feb-2007

Software Availability: Nov-2007



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Hardware

CPU Name:	Intel Xeon E5345
CPU Characteristics:	1333MHz system bus
CPU MHz:	2333
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	8 MB I+D on chip per chip, 4 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	16 GB (8 x 2 GB DDR2-5300F ECC)
Disk Subsystem:	1 x 36 GB SAS, 15000 RPM
Other Hardware:	None

Software

Operating System:	SLES 10 (x86_64), 2.6.16.21-0.8-smp
Compiler:	Intel C++ Compiler for Linux version 10.1 Build 20070824
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Multi-user, run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap 8.1



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	747	13.1	747	13.1	747	13.1	603	16.2	602	16.2	603	16.2
401.bzip2	937	10.3	934	10.3	936	10.3	871	11.1	868	11.1	869	11.1
403.gcc	798	10.1	799	10.1	798	10.1	555	14.5	555	14.5	555	14.5
429.mcf	545	16.7	547	16.7	549	16.6	510	17.9	508	18.0	508	18.0
445.gobmk	815	12.9	814	12.9	815	12.9	719	14.6	719	14.6	719	14.6
456.hammer	884	10.5	885	10.5	884	10.5	514	18.2	513	18.2	513	18.2
458.sjeng	991	12.2	987	12.3	987	12.3	898	13.5	901	13.4	899	13.5
462.libquantum	210	98.7	182	114	200	103	164	127	166	125	168	124
464.h264ref	1076	20.6	1075	20.6	1074	20.6	1011	21.9	1011	21.9	1013	21.8
471.omnetpp	548	11.4	547	11.4	548	11.4	503	12.4	503	12.4	504	12.4
473.astar	706	9.94	707	9.93	706	9.94	641	11.0	640	11.0	640	11.0
483.xalancbmk	397	17.4	396	17.4	397	17.4	397	17.4	396	17.4	397	17.4

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 16M

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-fast -vec-guard-write -opt-malloc-options=3 -parallel
-par-runtime-control

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Base Optimization Flags (Continued)

C++ benchmarks:

```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap
```

Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):

icc

```
401.bzip2: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/bin/icc  
          -L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/lib  
          -I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/include
```

```
456.hmmr: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/bin/icc  
          -L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/lib  
          -I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/include
```

C++ benchmarks:

icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32

401.bzip2: -DSPEC_CPU_LP64

456.hmmr: -DSPEC_CPU_LP64

462.libquantum: -DSPEC_CPU_LINUX

483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

```
400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias  
              -prefetch
```

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Peak Optimization Flags (Continued)

```
401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
           -auto-ilp32

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo
            -no-prec-div -ansi-alias

456.hmmr: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive
           -auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -O0 -prefetch
                 -opt-streaming-stores always -vec-guard-write
                 -opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
              -ansi-alias
```

C++ benchmarks:

```
471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
              -no-prec-div -ansi-alias -opt-ra-region-strategy=block
              -Wl,-z,muldefs
              -L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
            -no-prec-div -ansi-alias -opt-ra-region-strategy=routine
            -Wl,-z,muldefs
            -L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

483.xalancbmk: basepeak = yes
```

Peak Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

The flags file that was used to format this result can be browsed at
<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.02.html>

You can also download the XML flags source by saving the following link:
<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.02.xml>



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